

# Drugs, Brains, and Behavior: The Science of Addiction

## Addiction and Health

### What are the medical consequences of drug addiction?

People who suffer from addiction often have one or more accompanying medical issues, which may include lung or cardiovascular disease, stroke, cancer, and mental disorders. Imaging scans, chest X-rays, and blood tests show the damaging effects of long-term drug abuse throughout the body. For example, research has shown that tobacco smoke causes cancer of the mouth, throat, larynx, blood, lungs, stomach, pancreas, kidney, bladder, and cervix. In addition, some drugs of abuse, such as inhalants, are toxic to nerve cells and may damage or destroy them either in the brain or the peripheral nervous system.

### The Impact of Addiction Can Be Far-Reaching

- Cardiovascular disease
- Stroke
- Cancer
- HIV/AIDS
- Hepatitis B and C
- Lung disease
- Mental disorders

### Does drug abuse cause mental disorders, or vice versa?

Drug abuse and mental illness often co-exist. In some cases, mental disorders such as anxiety, depression, or schizophrenia may precede addiction; in other cases, drug abuse may trigger or exacerbate those mental disorders, particularly in people with specific vulnerabilities.

### How can addiction harm other people?

Beyond the harmful consequences for the person with the addiction, drug abuse can cause serious health problems for others. Three of the more devastating and troubling consequences of addiction are:

- **Negative effects of prenatal drug exposure on infants and children.**

A mother's abuse of heroin or prescription opioids (drugs that act on the nervous system to relieve pain) during pregnancy can cause a withdrawal syndrome (called neonatal abstinence syndrome, or NAS) in her infant. It is also likely that some drug-exposed children will need educational support in the classroom to help them overcome what may be subtle deficits in developmental areas such as behavior, attention, and thinking. Ongoing research is investigating whether the effects of prenatal drug exposure on the brain and behavior extend into adolescence to cause developmental problems during that time period.

- **Negative effects of secondhand smoke.**

Secondhand tobacco smoke, also called environmental tobacco smoke (ETS), is a significant source of exposure to a large number of substances known to be hazardous to human health, particularly to children. According to the Surgeon General's 2006 Report, [\*The Health Consequences of Involuntary Exposure to Tobacco Smoke\*](#), involuntary exposure to secondhand smoke increases the risks of heart disease and lung cancer in people who have never smoked by 25–30 percent and 20–30 percent, respectively.<sup>20</sup>

- **Increased spread of infectious diseases.**

Injection of drugs such as heroin, cocaine, and methamphetamine currently accounts for about 12 percent of new AIDS cases.<sup>21</sup> Injection drug use is also a major factor in the spread of hepatitis C, a serious, potentially fatal liver disease. Injection drug use is not the only way that drug abuse contributes to the spread of infectious diseases. All drugs of abuse cause some form of intoxication, which interferes with judgment and increases the likelihood of risky sexual behaviors. This, in turn, contributes to the spread of HIV/AIDS, hepatitis B and C, and other sexually transmitted diseases.

**Here is a link to some “Drug Facts” from the National Institute on Drug Abuse**

<http://www.drugabuse.gov/publications/finder/t/160/DrugFacts>